

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM
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M089 White-eared Pocket Mouse *Perognathus alticollis*
Family: Heteromyidae Order: Rodentia Class: Mammalia

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The white-eared pocket mouse historically has been found in isolated, montane areas in the Tehachapi Mts., and in the San Bernardino Mts. in the vicinity of Strawberry Peak. Its elevational range is 1070-1800 m (3500-5900 ft). The white-eared pocket mouse is poorly known, but appears to be a scarce resident in ponderosa and Jeffrey pine habitats, and uncommon in mixed chaparral and sagebrush habitats. It recently has been captured in a fallow field dominated by Russian thistle. Apparently no specimens have been collected since 1938 in the San Bernardino Mts.; this population may no longer exist.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Feeds on plant seeds, probably preferring various grass seeds, and perhaps some insects. Forages on open ground and beneath shrubs.

Cover: Burrows are constructed in loose soil. The closely related Great Basin pocket mouse is more common in denser shrub habitats.

Reproduction: A nest of dried grass is built in a chamber of the underground burrow.

Water: No data found. Probably does not require free water.

Pattern: Grinnell (1933) stated that the species occupies dry, open pine forest where bracken fern grows. Current pattern is unclear.

SPECIES LIFE HISTORY

Activity Patterns: Nocturnal. Aestivates in very hot weather, and hibernates in very cold weather.

Seasonal Movements/Migration: None.

Home Range: No data found.

Territory: No data found.

Reproduction: No data found. Reproduction of related *P. parvus* is March to April, with peak in June. Gestation likely 21-28 days. Litter size ranges 3-8 with average of 5. Weaning likely within 3 wk.

Niche: Likely predators include foxes, coyotes, weasels, owls, and snakes.

Comments: The white-eared pocket mouse, like the yellow-eared pocket mouse, probably represents a relict distribution of *P. parvus* in California. *P. parvus* is endemic to sagebrush habitats; *P. alticola* and *P. xanthonotus* also inhabit chaparral-sagebrush habitats. Inferences about life history of *P. alticola* and *P. xanthonotus* from data on *P. parvus* probably are correct and are used extensively above. James Sulentic and David Huckaby of California State University, Long Beach investigated *P. alticola*, and captured only 3 specimens in extensive trapping in 1979 and 1980. The species may be in danger of extinction.

REFERENCES

- Grinnell, J. 1933. Review of the recent mammal fauna of California. Univ. Calif. Publ. Zool. 40:71-234.
- Ingles, L. G. 1965. Mammals of the Pacific states. Stanford Univ. Press, Stanford, CA. 506pp.
- Jameson, E. W., Jr. 1954. Insects in the diet of pocket mice, *Perognathus parvus*. J. Mammal. 35:592-593.
- Williams, D. F. 1978. Karyological affinities of the species groups of silky pocket mice (Rodentia, Heteromyidae). J. Mammal. 59:599-612.
- Williams, D. F. 1986. Mammalian species of special concern in California. Calif. Dept. Fish and Game, Sacramento. Admin. Rep. 86-1. 112pp. 2 litters may be raised, but usually there is 1, or none in poor years (Iverson 1967, Schreiber 1973). Weaning occurs at about 3 wk. Sexual maturity usually occurs in spring following birth, although in exceptional years subadults may breed (Speth et al. 1968, O'Farrell et al. 1975).

Niche: A small-bodied granivore occurring largely in sagebrush habitats. Competitors for seed resources include other heteromyids and cricetids. Predators include snakes, owls, and predatory mammals. Parasites include 6 mites, 3 fleas, and 3 ticks (Allred 1963, Allred and Beck 1963a, 1963b, Beck et al. 1963, Allred and Goates 1964, Beck and Allred 1966, Egoscue 1966). In south-central Washington, the majority of individuals sampled had pathogenic diseases, including visceral nematodes, increased hemopoiesis, and focal leucocyte aggregates (O'Farrell 1975). Northern range limit of *P. parvus* probably determined by period of cold winter temperatures and accompanying reduction in period favorable for seed gathering and reproductive cycle (Iverson 1967).

REFERENCES

- Allred, D. M. 1963. Mites from pocket mice at the Nevada test site. Proc. Entomol. Soc. Wash. 65:231-233.
- Allred, D. M., and D. E. Beck. 1963a. Ecological distribution of some rodents at the Nevada atomic test site. Ecology. 44:211-214.
- Allred, D. M., and D. E. Beck. 1963b. Range of movement and dispersal of some rodents at the Nevada atomic test site. J. Mammal. 44:190-200.
- Allred, D. M., and M. A. Goates. 1964. Mites from mammals at the Nevada test site. Great Basin Nat. 24:71-73.
- Beck, D. E., and D. M. Allred. 1966. Siphonaptera (fleas) of the Nevada test site. Brigham Young Univ. Sci. Bull. Biol. Ser. No. 7. 27pp.
- Beck, D. E., D. M. Allred, and E. P. Brinton. 1963. Ticks of the Nevada test site. Brigham Young Univ. Sci. Bull. Biol. Ser. No. 4. 11pp.
- Dalquest, W. W. 1948. Mammals of Washington. Univ. Kans. Publ., Mus. Nat. Hist. 2:1-444.
- Egoscue, H. J. 1966. New and additional host-flea associations and distributional records of fleas from Utah. Great Basin Nat. 26:71-75.
- Feldhamer, G. A. 1979. Vegetative and edaphic factors affecting abundance and distribution of small mammals in southeast Oregon. Great Basin Nat. 39:207-218.
- Hall, E. R. 1946. Mammals of Nevada. Univ. California Press, Berkeley. 710pp.
- Iverson, S. L. 1967. Adaptations to arid environments in *Perognathus parvus* (Peale). Ph.D. Thesis, Univ. British Columbia, Vancouver. 130pp.

- Jameson, E. W., Jr. 1954. Insects in the diet of pocket mice, *Perognathus parvus*. J. Mammal. 35:592-593.
- Jorgensen, C. D., and C. L. Hayward. 1965. Mammals of the Nevada test site. Brigham Young Univ. Sci. Bull., Biol. Ser. No. 7. 81pp.
- Kritzman, E. B. 1974. Ecological relationships of *Peromyscus maniculatus* and *Perognathus parvus* in eastern Washington. J. Mammal. 55:172-188.
- O'Farrell, T. P. 1975. Small mammals, their parasites and pathologic lesions on the Arid Lands Ecology Reserve, Benton County, Washington. Am. Midl. Nat. 93:377-387.
- O'Farrell, T. P., R. J. Olson, R. O. Gilbert, and J. D. Hedlund. 1975. A population of Great Basin pocket mice, *Perognathus parvus*, in the shrub-steppe of south-central Washington. Ecol. Monogr. 45:1-28.
- Scheffer, T. H. 1938. Pocket mice of Washington and Oregon in relation to agriculture. USDA. Tech. Bull. No. 608. 115pp.
- Schreiber, R. K. 1973. Bioenergetics of rodents in the northern Great Basin Desert. Ph.D. Diss., Univ. Idaho, Moscow. 146pp.
- Speth, R. L., C. L. Pritchett, and C. D. Jorgensen. 1968. Reproductive activity of *Perognathus parvus*. J. Mammal. 49:336-337.
- Verts, B. J., and G. L. Kirkland, Jr. 1988. *Perognathus parvus*. Mammal. Species No. 318. 8pp.